

CLAIMS:

1. An optical reading/writing device for reading/writing to an information layer comprises a radiation source for generating a radiation beam and an objective system for converging the radiation beam on the information layer, wherein the objective system includes a beam splitting element adapted to split the radiation beam into a read beam and a write beam.
2. An optical reading/writing device as claimed in claim 1, in which the objective system is adapted to converge the read beam and the write beam on separate locations.
- 10 3. An optical reading/writing device as claimed in either claim 1 or claim 2, in which the objective system is arranged such that the write beam has insufficient intensity at the information layer to affect data on the information layer when the read beam is focussed on the information layer.
- 15 4. An optical reading/writing device as claimed in any one of claims 1 to 3, in which, in use, the read and write beams produce two focus error signals.
5. An optical reading/writing device as claimed in any preceding claim, in which the beam splitting element is adapted to reshape the read beam.
- 20 6. An optical reading/writing device as claimed in any preceding claim, in which the read beam is re-shaped to improve a rim intensity of the read beam.
7. An optical reading/writing device as claimed in any preceding claim, in which the objective system includes electronic focus offset means adapted to focus one of the read beam or the write beam on the information layer.
- 25 8. An optical reading/writing device as claimed in any preceding claim, in which the beam splitting element is a birefringent grating element.

9. An optical reading/writing device as claimed in claim 7, in which the beam splitting element has a substructure in which a contribution efficiency increases radially outwards.

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10. An optical reading/writing device as claimed in claim 9, in which the radial increase increases relative rim intensity for the beam.

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11. An optical pickup device forming a part of an optical reading/writing device of any one of claims 1 to 10.

12. A method of producing reading and writing beams in an optical reading/writing device comprises:
generating a radiation beam with a radiation source and converging the

15 radiation beam on an information layer with an objective system, wherein
the beam is split into a reading beam and a writing beam with a beam splitting element of the objective system.

13. A method of writing to an information layer with an optical reading/writing device as claimed in any one of claims 1 to 10.

14. A method of reading an information layer with an optical reading/writing device as claimed in any one of claims 1 to 10.